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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,511	10/25/2002	Chia J. Liu	2002-0165	2132

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EXAMINER
NGUYEN, BRIAN D

ART UNIT	PAPER NUMBER
2616	

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05/14/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/065,511	LIU, CHIA J.
	Examiner	Art Unit	
	Brian D. Nguyen	2616	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>12 February 2007</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-22</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-22</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>16 December 2002</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   Claim 19 is objected to because of the following informalities:

Claim 19, line 1, it is suggested to insert --first-- before "queue".

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-2, 7-8, 13-16, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Ando et al (2004/0213242) in view of Reeves et al (2002/0071390).

Regarding claim 1, Ando discloses a method of configuring a packet-switched network

(figure 15) comprising the steps of: (i) receiving a request to establish a traffic engineering

tunnel across the packet-switched network (see paragraphs 0008, 0089); (ii) at a router (switch

50) traversed by the traffic engineering tunnel, creating a queue for packets carried inside the

traffic engineering tunnel (see 10 in figure 1 and Q_6-Q_{N+6} in figure 2); and (iii) reserving

bandwidth for the queue in accordance with the request to establish the traffic engineering tunnel

(see bandwidth allocation in paragraphs 0020 and 0026), wherein the queue created for packets

carried inside the traffic engineering tunnel is given a priority and the reserved bandwidth for the

queue can only be used by packets carried inside the traffic engineering tunnel (see paragraph

0026). Ando does not specifically disclose the packets carried inside the traffic engineering

tunnel is given priority over other traffic at the router. However, to give priority to one traffic over the other is a matter of design choice. Reeves discloses the packets carried inside the traffic engineering tunnel is given priority over other traffic (see paragraph 0101 where Reeves discloses MPLS traffic is given priority over non-MPLS traffic). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to give the packets carried inside the traffic engineering tunnel a higher priority in order to meet the design criteria of a particular implementation.

Regarding claims 2 and 7, Ando discloses packets are identified as being carried inside the traffic engineering tunnel by a label in the packet and wherein the queue is associated with the label (see label in paragraph 0002).

Regarding claim 8, Ando discloses a method of routing packets in a packet-switched network comprising the steps of: (i) receiving a packet at an incoming interface of a router (see figures 1 and 14); (ii) determining whether the packet has a label identifying a traffic engineering tunnel, thereby identifying that the packet is being carried inside the traffic engineering tunnel (see S22 in figure 7); (iii) where the packet is being carried inside the traffic engineering tunnel, sending the packet to a queue associated with the label (see 10 in figure 1 and Q_6-Q_{N+6} in figure 2). Ando does not specifically disclose the packets carried inside the traffic engineering tunnel is given priority over other traffic at the router. However, to give priority to one traffic over the other is a matter of design choice. Reeves discloses the packets carried inside the traffic engineering tunnel is given priority over other traffic (see paragraph 0101 where Reeves discloses MPLS traffic is given priority over non-MPLS traffic). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to give the

packets carried inside the traffic engineering tunnel a higher priority in order to meet the design criteria of a particular implementation.

Regarding claim 13, claim 13 is a method claim has substantially the same limitation as method claim 7. Therefore, it is subject to the same rejection.

Regarding claim 14, Ando discloses a router (switch 50) comprising: (i) a plurality of interfaces (figure 1); (ii) a first processing module that sorts packets received at an interface into those packets that are carried inside a traffic engineering tunnel and those packets that are not carried inside a traffic engineering tunnel (S22 in figure 7); (iii) a first queue (Q_6-Q_{N+6} in figure 2) which receives from the first processing module only packets carried inside a traffic engineering tunnel; (iv) a second queue (Q_0-Q_6) which receives from the first processing module packets that are not carried inside a traffic engineering tunnel. Ando does not specifically disclose the first queue has a higher priority than the second queues. However, Reeves discloses the packets carried inside the traffic engineering tunnel has a higher priority than other traffic (see paragraph 0101 where Reeves discloses MPLS traffic is given priority over non-MPLS traffic). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to give the packets carried inside the traffic engineering tunnel a higher priority in order to meet the design criteria of a particular implementation.

Regarding claims 15, 16, and 22, Ando discloses label switching (see paragraph 0002).

4.   Claims 3-6, 9-12, and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ando in view of Reeves as applied to claims 1, 8, and 16 above, and further in view of Nomura (6,973,504).

Regarding claims 3 and 4, Ando does not specifically disclose the queue is shared

between two or more traffic engineering tunnels and the reserved bandwidth for the queue

comprises a sum of bandwidth reserved for each of the two or more traffic engineering tunnels.

However, Nomura teaches a method for decreasing required resource for the bandwidth

reservation in an inter-site connection network used for communication between communication

sites (lines 2 - 4 in Abstract), which is based on a concept of shared bandwidth allocation

determined when establishing a path between sites, the shared bandwidth.(or aggregation

bandwidth) is reserved for a plurality of paths (tunnels), instead of individual bandwidth resource

reserved on a path by path basis (col. 2, lines 23 - 27); the embodiment is assumed that Label

Distribution Protocol (LDP) is used for establishing MPLS path (LSP: Label Switching Path -

Tunnel) (col. 5, lines 61 - 62); when a bandwidth is to be allocated for the path, a path having the

same originating site ID or destination site ID is searched out of the existing paths belonging to

the same group ID, when the same ID is found, the sum of the bandwidth possessed by the

existing path (aggregation bandwidth) and the path request bandwidth is determined as a

temporary aggregation bandwidth (col. 5, lines 17-22; col. 6, lines 41 - 52; P1 - P10 in Figure 5).

It would have been obvious to a person of the ordinary skill in the art at the time the invention

was made to add the concept of shared bandwidth for a plurality of paths (tunnels) as taught by

Nomura to the method of MPLS queue configuration of Ho, in order to decrease required

resource for the bandwidth reservation in the inter-site connection network used for

communication between communication sites (lines 2 - 4 in Abstract of Nomura).

Regarding claims 5 and 6, Ando does not disclose that the queue is shared between two

or more tunnels with the same head (or tail) end router. Nomura teaches that when a bandwidth

is to be allocated for the path, a path having the same originating site ID (head end router) or destination site ID (tail end router) is searched out of the existing paths belonging to the same group ID, when the same ID is found, the sum of the bandwidth possessed by the existing path (aggregation bandwidth) and the path request bandwidth is determined as a temporary aggregation bandwidth (col. 6, lines 41 - 52); also, the idea is illustrated in Figures 10 and 11, in which are the "Aggregated bandwidth by a group of same originating site" and "Aggregated bandwidth by a group of same destination site". It would have been obvious to a person of the ordinary skill in the art at the time the invention was made to add the idea of grouping the paths (tunnels) with the same head (tail) end router as taught by Nomura to the method of MPLS queue configuration of Ho, in order to decrease required resource for the bandwidth reservation in the inter-site connection network used for communication between communication sites (lines 2 - 4 in Abstract of Nomura). Therefore, it would have been obvious to combine Nomura with Ho to obtain the invention as specified in claims 5-6.

Regarding claims 9-12, claims 9-12 have substantially the same limitation as claims 3-6. Therefore, they are subject to the same rejection.

Regarding claims 17-21, claims 17-21 are apparatus claims that have substantially the same limitation as claims 3-6. Therefore, they are subject to the same rejection.

Response to Arguments

5.   Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.
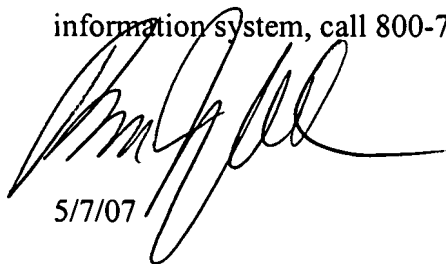
Conclusion

6.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Brian D. Nguyen whose telephone number is (571) 272-3084.

The examiner can normally be reached on 7:30-6:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Wellington Chin can be reached on (571) 272-3134. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

5/7/07

**BRIAN NGUYEN
PRIMARY EXAMINER**